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ABSTRACT

The search for and generation of causal explanations required by the task of explaining an initial impression, appear to be sufficient to raise the subjective likelihood of the event explained and to result in the persistence of the initial impression. Generating supporting and counter arguments with respect to the event does not result in an increase in the event's subjective likelihood. To study the performance differences between experts and novices for these hypotheses, a study was conducted which replicated Tutin's experiment (1985) with undergraduate students, using 86 clinical psychologists as subjects. In the first condition, clinicians were required to explain the reasons for the hypothetical occurrence of an event in the later life of a person, after reading biographical material. In a second condition, subjects were required to explain both the occurrence and the nonoccurrence of an event. Control subjects explained an unspecified event. All subjects rated the likelihood of the occurrence of a series of events, including the events explained by some subjects. Findings indicated that, similar to the performance of undergraduate student subjects on an identical task, clinicians generating only supporting arguments exhibited a biased perception of the likelihood of the event, while clinicians providing dual explanations did not show such a bias. Clinicians, however, showed some resilience to this bias depending on the event explained. (ABB)

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Clinicians' Use of Explanation and Counterexplanation in a Judgment Task

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Abstract

The present study was designed to examine the role of explanation in the persistence of initial impressions by demonstrating that explaining the hypothetical occurrence of an event results in an increase in the event's subjective likelihood, while generating supporting and counterarguments with respect to the event does not result in an increase in the event's subjective likelihood. Clinical psychologists served as subjects and were required to explain the reasons for the hypothetical occurrence of an event in the later life of a person, after reading biographical material. In a second condition subjects were required to explain both the occurrence and non-occurrence of an event. Control subjects explained an unspecified event. All subjects rated the likelihood of the occurrence of a series of events, including the events explained by some subjects. The findings indicated that, similar to the performance of undergraduate student subjects on an identical task, clinicians generating only supporting arguments exhibited a biased perception of the likelihood of the event, while clinicians providing dual explanations did not show such a bias. Clinicians, however, showed some resilience to this bias depending on the event explained. The clinical implications of the findings are discussed as well as the relationship between explanation and the activation of cognitive schemas.

Clinicians' Use of Explanation and Counterexplanation in a Judgment Task

A large body of attribution research suggests that the naive observer of social behavior is subject to a variety of cognitive failings as he or she engages in the performance of what appear to be fairly straightforward judgment tasks (Nisbett & Ross, 1980). Some of these failings result in quantifiable biases in judgments, inferences and predictions. A natural extension of this work is its application to individuals who routinely engage in judgment tasks, namely, clinical psychologists.

The specific focus of the present study was the role of explanation in the persistence of initial impressions. It has already been demonstrated that individuals tend to persist in a belief, even after the data upon which the belief has been based have been discredited (cf. Ross & Lepper, 1980). Experiments have revealed such "belief perseverance" in self-perception (Davies, 1982; Jennings, Lepper & Ross, 1981; Ross, Lepper & Hubbard, 1975), in social explanation and expectation (Ross, Lepper, Sracker & Steinmetz, 1977; Tutin, 1984a, 1985), in theory generation (Anderson, Lepper & Ross, 1980; Smith, 1982) and in political beliefs (Carretta & Moreland, 1982).

It has been suggested that the mere search for and generation of causal explanations required by the task of explaining an initial impression, appear to be sufficient to raise the subjective likelihood of the event explained and to result in the persistence of the initial impression (Ross et al., 1977). For example, subjects told that a patient might have committed suicide and asked to explain why, rated the patient as more likely to commit suicide than subjects who had received instructions regarding the patient's hypothetical financial contribution to the Peace Corps, even after they had been informed that the experimenter had no knowledge of the future behavior of the patient (Ross et al., 1977). The role of explanation in belief perseverance has been demonstrated in a similar manner in a number of studies (Anderson et al., 1980; Fleming and Arrowood, 1979; Ross et al., 1977; Smith, 1982; Tutin, 1984a, 1985). Additional evidence for the role of explanation in enhancing the persistence of initial impressions has been provided by demonstrating that

counterexplanation attenuates the effects of explanation (Smith, 1982; Tutin, 1984a, 1985).

An extrapolation from the belief perseverance and related attribution literature is often made to suggest that clinicians engaging in judgment and prediction tasks are likely to be subject to the same biases repeatedly found among undergraduate student subjects (cf., Arkes, 1981). While it can be suggested that clinicians possess expertise in judgment and prediction that would protect them from such biased judgment, many investigators of clinical judgment have concluded that clinicians do not possess the special qualifications necessary to be considered experts (see, for example Taft, 1955; Wiggins, 1973) or at least are not miraculously free from the errors made by other humans (Meehl, 1954). However, the study of performance differences between experts and novices suggests that, in addition to the considerable knowledge which is essential for expert skills, also important are schemata which provide a framework for interpretation of problems and for problem solving (Larkin, McDermott, Simon & Simon, 1980). Thus, it was hypothesized that clinicians, by virtue of their expertise in similar tasks, would be less likely to show biased judgment in the analogue clinical judgment task employed here and would perform differently than the naive subjects who have participated in the previous research on belief perseverance.

This study was a replication of Tutin's experiment (1985) with undergraduate student subjects. In Tutin's experiment, subjects who provided pro-arguments for an event exhibited an unwarranted increase in likelihood ratings for that event while no increase was observed among ratings of subjects who had provided both pro- and counterarguments. The same hypotheses were tested in this study which used clinician subjects; if clinicians performed in the same biased manner as undergraduate students, subjects providing pro-arguments would be expected to show increased likelihood ratings compared to control condition subjects, while subjects providing pro- and counterarguments would not be expected to show increased likelihood ratings compared to subjects in control and pro-argument only conditions.

Method

Subjects

Subjects were 86 respondents (26%) from an initial mailing made to 335 members of Division 12, Clinical Psychology, of the American Psychological Association. Eighteen days after an initial introductory letter was sent, a questionnaire packet was mailed to each potential subject with a stamped return envelope.

Procedure

The procedure employed was similar to that used by Ross et al. (1977) and identical, except for the use of a mailing, to that of Tutin (1985). The instructions indicated that the purpose of the study was "to contrast judgments of professionals and nonprofessionals in order to isolate effects of clinical training" and that authentic biographical information was being used. Biographies and events had been pretested (Tutin, 1984b). Subjects were asked to perform the task as they would "if it were related to a professional activity" and were informed that no information was known, beyond the biographical information provided. Subjects were then asked "to imagine that you, as a professional, have learned" something about the individual (i.e., the initial belief), the description of which was determined by the experimental condition as described below. A list of the six outcome events to be predicted was included. Specific procedures for each condition were as follows.

Control condition. The 28 control group subjects read two cases in counterbalanced order. They were asked to imagine that, as a professional, they had learned of a later (unspecified) event in the target's life. After reading the biography, subjects were asked to list the information, referring back to the biographical information if they wished, that "might help us to explain or might have allowed us to anticipate a later event" in the target's life.

Pro-argument condition. Twenty-nine subjects in the pro-argument condition explained suicide for one case and social cause for another case in counterbalanced order. These subjects were given instructions identical to the control group described above, except that the event they were to

imagine and later to explain was described as either the target's "hypothetical suicide" or "hypothetical involvement in a social cause."

Pro- and counterargument condition. Twenty-nine subjects in the pro- and counterargument condition explained suicide for one case and social cause for another case in counterbalanced order. These subjects' instructions were identical to the pro-argument condition instructions, except that the event was described as either the target's "hypothetically committing or not committing suicide" or "hypothetically becoming or not becoming involved in a social cause." Each subject was asked to provide pro- and counterarguments for the event. Order of arguments was counterbalanced.

All subjects were then asked to rate the likelihood that the target would engage in six events in the future. In addition to the two events explained by some subjects, the events included volunteer work in an elementary school, commitment to a mental hospital, involvement in an elderly support group and refusing to lend money to a friend. Subjects made their ratings by comparing the target with the average American female of the same age. Ratings were made on nine point Likert-type scales ranging from -4 (much less likely) to +4 (much more likely), with a midpoint of 0 labeled "about as likely as the average American female."

Results

Sample Characteristics

Ninety-eight percent of the sample identified their highest degree as a Ph.D., eighty-seven percent identified the area of specialization of their degree as clinical psychology, and 95% were licensed. Table 1 presents the sample characteristics with respect to subjects' stated endorsement of roles as therapists (including orientation), psychodiagnosticians and researchers, none of which were mutually exclusive. Since 91% and 88% of the subjects identified themselves as psychotherapists and psychodiagnosticians, respectively, it is clear that the majority of the sample consisted of practicing clinicians.

Analysis of Dependent Measures

A series of analyses were performed to examine order of ratings (Order), Case and event explained (Event). A significant three-way interaction was obtained between experimental condition (Condition; pro-argument vs. pro- and counterargument vs. control), Event and Order ($F(1,48)=7.26$, $p<.02$); therefore, Event was retained as a within subjects factor and Order was included as a between subjects factor in subsequent analyses.

A repeated measures ANOVA with Event as the within subjects factor, and Condition and Order as the between subjects factors, resulted in significant main effects for Condition, $F(2,78)=7.87$, $p<.002$ and Event, $F(1,78)=12.97$, $p<.002$, and significant interactions as follows: Condition X Event, $F(2,78)=7.85$, $p<.002$, and Condition X Event X Order, $F(2,78)=4.04$, $p<.03$. The nature of the three-way interaction was examined. Regardless of the event explained, suicide or social cause, the effect of Condition was significant, $F(2,79)=9.83$, $p<.001$, and $F(2,78)=5.93$, $p<.005$, respectively. For the event social cause all means were in the predicted direction. The pro-argument condition mean ($m=-0.04$) was significantly greater than the control condition mean ($m=-1.59$), $F(1,78)=10.50$, $p<.003$. While the pro-argument condition mean was not greater than the pro- and counterargument condition mean ($m=-0.57$; $p>.2$) it was greater than the combined mean of the pro- and counterargument and control conditions ($m=-1.08$; $F(1,78)=6.93$, $p<.008$; see Table 2).

For the event suicide, a significant Condition X Order interaction, $F(2,79)=5.28$, $p<.008$, qualified the main effect for Condition. Simple effects for suicide in each order were examined separately. For ratings made when suicide had been explained first, the effect of Condition was not significant. Nevertheless, since a priori hypotheses existed, the contrasts were conducted (see Howell, 1982, p. 279). The mean for suicide among pro- and counterargument condition subjects ($m=-0.71$) was significantly less than the mean for control condition subjects ($m=0.50$), $F(1,41)=4.48$, $p<.05$. As can be seen from the means presented in Table 3, the mean for the first

ratings made among pro-argument condition subjects ($\bar{m}$=-0.20) did not show the predicted increase. When suicide was explained second, the effect for Condition was significant, $F(2,38)=13.91$, $p<.001$. The pro-argument condition mean ($\bar{m}$=1.92) was significantly greater than the control condition mean ($\bar{m}$=0.54), $F(1,38)=5.80$, $p<.03$. In addition, the mean for the pro- and counter- argument condition ($\bar{m}$=-1.07) was significantly less than both the pro-argument and control condition means, $Fs(1,38)=27.69$, $p<.001$, and 7.67, $p<.01$, respectively.

Discussion

Clinician subjects exhibited the predicted effects of explanation only under some conditions. For the event social cause, the predicted increase in subjective likelihood associated with explanation was clearly observed. For the event suicide, only second ratings were consistent with predictions. Thus, the hypothesis that clinicians would perform differently than undergraduate students in that they appeared to be less prone to the bias examined in these studies, has received some support. The subjects who explained both the occurrence and non-occurrence of an event exhibited the predicted attenuation in subjective likelihood for both events explained. Indeed, when suicide was the event explained, the attenuation was considerably marked as compared to that observed in previous studies employing undergraduate student subjects (Tutin 1984a, 1985).

The present results support the suggestion that the mere generation of possible reasons for an event's occurrence leads even clinician subjects to experience an unwarranted alteration in their perception of the probability of the event actually occurring, such that the event seems to be more likely to occur. This finding has obvious negative implications for individuals routinely engaged in prediction tasks. A more important contribution of the present methodology was the demonstration that requiring pro- and counterarguments is one way of employing explanation that did not result in the biasing of subjective likelihood observed among subjects generating only pro-arguments in this and in previous research. The present work provides support for previous suggestions that

clinicians pursue decision-making through a series of hypothesis testing strategies including both confirmatory and disconfirmatory lines of inquiry (Cantor, 1982; Hogarth, 1981) in order to avoid a confirmatory bias in hypothesis testing.

It is speculated that, as a result of their training, clinicians have a better organized knowledge base and/or better developed information processing strategies for information regarding suicide than for information regarding social cause. It has previously been suggested that experienced clinicians may use more sophisticated concepts better than novices to integrate information (Horowitz, Post, French, Wallis & Siegelman, 1981) and there is evidence to suggest that individuals with more complex schemas or knowledge structures make less extreme scheme-relevant evaluations (Linville, 1982). This may account for some of the differences between the findings of the present study and the findings of previous studies in which undergraduate student subjects participated. In particular, a better organization for and/or capacity to process information regarding a frequently assessed clinical problem like suicide may be related to the relatively weaker findings for the event suicide in the present study. It should be recalled that those subjects generating both supporting and counterexplanations for suicide differed from the other two groups of subjects. It may be the case that clinician subjects, regardless of specific instructions, went through a relatively familiar pro-argument explanation process prior to making a prediction for the event suicide, and only engaged in a counterargument process when specifically requested to do so. Since depression has been referred to as "the common cold of psychopathology" (Seligman, 1973) and since assessment of suicidal risk is essential to the diagnosis and treatment of depressed individuals (Lewinsohn & Lee, 1981) it is likely that suicide prediction represents a frequently encountered clinical problem for which clinicians possessed a well-developed schema. It is unclear whether the order effect for suicide was an artifact or represents a reliable effect of repeating the task under some conditions. Additional research is needed to clarify the order effect and to investigate schema related differences between clinicians and other comparison groups.

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Table 1

Sample Characteristics

	n	%
Psychotherapist	78	91
Behavioral Orientation	43	50
Psychodynamic Orientation	62	71
Psychodiagnostician	76	88
Researcher	51	60

Note: No categories are mutually exclusive.

Table 2

Mean Likelihood Ratings for Events Explained by Event

Condition	M	SD	n
	Suicide Explained[a]		
Pro-argument	0.79	1.87	28
Pro- and counter-argument	-0.89	1.55	28
Control	0.52	1.36	28
Total	0.14	1.76	84
	Social Cause Explained[b]		
Pro-argument	-0.04	1.82	28
Pro- and counter-argument	-0.57	1.91	28
Control	-1.59	1.28	28
Total	-0.73	1.67	84

[a] Likelihood ratings for suicide.

[b] Likelihood ratings for social cause.

Table 3

Mean Likelihood Ratings for Suicide by Order

Condition	M	SD	n
	Suicide Explained First		
Pro-argument	-0.20	1.82	15
Pro- and counter-argument	-0.71	1.59	14
Control	0.50	1.16	15
Total	-0.13	1.59	44
	Suicide Explained Second		
Pro-argument	1.92	1.19	13
Pro- and counter-argument	-1.07	1.56	15
Control	0.54	1.60	13
Total	0.41	1.88	41